

ABSTRACT

A balloon arterial cannula and methods for filtering blood. The devices generally include a mesh for filtering blood flowing within a blood vessel, particularly within an artery such as the aorta, a structure adapted to open and close the mesh within the blood vessel, a means to actuate the structure, and a balloon occluder which typically includes a flexible material enclosing a chamber. The methods generally include the steps of introducing a mesh into a blood vessel to capture embolic material, adjusting the mesh, if necessary, during the course of filtration, inflating the balloon occluder to occlude the vessel upstream of the mesh, and thereafter deflating the balloon occluder and removing the mesh and the captured foreign matter from the blood vessel. Additionally, visualization techniques are used to ensure effective filtration.